

REMARKS

The Office action mailed on 24 April 2001 (Paper No. 6) has been carefully considered.

The specification and Abstract are being amended to correct minor errors and improve form. Claims 1 thru 12 are being amended. Thus, claims 1 thru 12 remain pending in this application.

In paragraph 2 on page 2 of the Office action, the Examiner rejected claims 1 thru 12 under 35 U.S.C. §103 for alleged unpatentability over Young *et al.*, U.S. Patent No. 5,479,266 in view of Lawler *et al.*, U.S. Patent No. 5,699,107 and Yuen *et al.*, U.S. Patent No. 6,154,203. For the reasons stated below, it is submitted that the invention recited in the claims, as now amended, is distinguishable from the prior art cited by the Examiner so as to preclude rejection under 35 U.S.C. §103.

Young *et al.* '266 discloses a user interface for a television schedule system. On page 2 of the Office action, the Examiner admits that Young *et al.* '266 does not disclose that the viewing of a currently reviewed program is maintained while program identification information corresponding to a selected broadcast program is read from pre-stored program identification information. However, the Examiner cites Yuen *et al.* '203 as allegedly disclosing, in Fig. 2 thereof, maintenance of the viewing of a broadcast program.

A review of Yuen *et al.* '203, and Fig. 2 in particular, discloses that a "picture in a picture" arrangement is provided so that a video broadcast program 42 is reduced substantially in size, and

displayed in the upper left hand portion of a display screen, while broadcast information is displayed in the lower half of the screen, and specifically selected broadcast information is displayed in an upper right hand portion of the screen. Thus, it cannot be said that Yuen *et al.* '203 discloses the maintenance of the viewing of a given program without interruption while program identification information corresponding to a selected broadcast program is being read. That is to say, in Yuen *et al.* '203, the viewing is subjected to a substantial and even severe reduction (by 75% or more) in the size of the broadcast picture. Thus, even if the combination of Young *et al.* '266 and Yuen *et al.* '203 is a proper combination under 35 U.S.C. §103, the combination of the two disclosures does not result in the present invention, as now claimed.

In addition, Applicant respectfully submits that there is nothing within the “four corners” of the disclosure of Young *et al.* '266 which would prompt a person of ordinary skill in the art, upon reviewing the disclosure of that primary reference, to seek and incorporate the teachings of Yuen *et al.* '203. It is further submitted that the only reason the Examiner has been able to combine these two references is on the basis of hindsight, as assisted by the teachings presented in the present application. Thus, there is also a serious question as to the propriety of the combination of these two references under 35 U.S.C. §103.

On page 2 of the Office action, the Examiner also admits that Young *et al.* '266 does not disclose selection of reserve-recording with respect to a current broadcast program. Therefore, the Examiner cites Lawler *et al.* '107 as allegedly disclosing the selection of a current broadcast program for reserve-recording. Applicant respectfully disagrees with this interpretation of Lawler *et al.* '107.

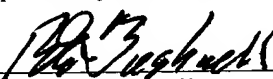
Specifically, Lawler *et al.* '107 discloses a program reminder system which is provided for the purpose of reminding a user of an interactive viewing system that a preselected program is available at a particular point of time. That is to say, the program reminder system of Lawler *et al.* '107 functions in such a manner that, upon arrival of the time at which a particular program is available, the reminder panel of the interactive viewing system identifies the selected program, informs the user that will be available shortly, and thus reminds the user to turn to the appropriate channel of the interactive viewing system for viewing (**not recording**) the selected program (*see* the Abstract, last four lines). Thus, even if the combination of Young *et al.* '266 and Yuen *et al.* '203 constitutes a proper combination under 35 U.S.C. §103, the result of combining these two references does not result in the invention, as claimed. That is to say, the arrangement resulting from the combination of these two references does not have the capability of **automatically** selecting a broadcast program currently being viewed, and of setting **reserve-recording** with respect to the broadcast program currently being viewed.

In addition, as was the case with respect to the combination of Young *et al.* '266 and Lawler *et al.* '107, there is nothing within the “four corners” of the disclosure of Young *et al.* '266 which would motivate a person of ordinary skill in the art, upon reviewing that disclosure, to seek and incorporate the teachings of Yuen *et al.* '203. It is submitted that the only reason that the Examiner has been able to combine these two references is based on hindsight, as assisted by the teachings of the present application alone.

In view of the above, it is submitted that the claims of this application are in condition for allowance, and early issuance thereof is solicited. Should any questions remain unresolved, the Examiner is requested to telephone Applicant's attorney.

A fee of \$110.00 is incurred by filing of a petition for one month extension of time. Applicant's check drawn to the order of the Commissioner accompanies this. Should the check become lost or detached from the file, the Commissioner is authorized to charge Deposit Account No. 02-4943 and advise the undersigned attorney accordingly. Also, should the enclosed check be deemed to be deficient or excessive in payment, the Commissioner is authorized to charge or credit our deposit account and notify the undersigned attorney of any such transaction.

Respectfully submitted,


Robert E. Bushnell,
Attorney for the Applicant
Registration No.: 27,774

1522 "K" Street N.W., Suite 300
Washington, D.C. 20005
(202) 408-9040

Folio: P55248
Date: 8/23/01
I.D.: REB/JGS

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION AND ABSTRACT

Please enter the following amendments to the originally filed specification and Abstract for the purpose of preparing a Substitute Specification (and Abstract):

TITLE OF THE INVENTION

METHOD AND APPARATUS FOR RESERVE-RECORDING

A VIEWING BROADCAST PROGRAM

CLAIM FOR PRIORITY

This application makes reference to, incorporates the same herein, and claims all benefits accruing under 35 U.S.C. §119 from an application for *METHOD AND APPARATUS FOR RESERVE-RECORDING A VIEWING BROADCAST PROGRAM* earlier filed in the Korean Industrial Property Office on the 20th of June 1997, and there duly assigned Serial No. 26306/1997, a copy of which application is annexed hereto.

BACKGROUND OF THE INVENTION

Technical Field

The present invention relates to a method and apparatus for reserve-recording a broadcast program, and more particularly, to a method and apparatus for reserve-recording a [viewing] currently viewed broadcast program so that, while a user views [a] the broadcast program, a

subsequent broadcast portion of the broadcast program is reserve-recorded.

Related Art

Generally, when a reserve-recording function of a broadcast program is executed by using a video cassette recorder (VCR) or a television incorporated with a VCR (TVCR), a user sets reserve-recording data such as a recording start time and end time, the channel of a desired broadcast program, types of reserve-recording, for example, once-recording, daily recording, every week recording, etc., and then [press] presses a reserve-recording button. Such a reserve-recording function requires the user to manipulate a number of [times of] keys a number of times, and can therefore be very burdensome and susceptible to mal-operations. Variations of this reserve-recording function are disclosed, for example, in U.S. Patent No. 5,166,911 for *Timer Reservation Recording System* issued to Misawa et al., U.S. Patent No. 5,270,829 for *Automatically Reserve-Recording And Reserve-Playing Back A Broadcasted Program* issued to Yang, U.S. Patent No. 5,293,357 for *Method And Apparatus For Controlling A Television Program Recording Device* issued to Hallenbeck, U.S. Patent No. 5,453,793 for *Method For Recording A Series Program In A Video Cassette Recorder* issued to Kim, U.S. Patent No. 5,499,102 for *Display Device For Videocassette Recorder Recording Reservations* issued to Hashimoto, U.S. Patent No. 5,543,933 for *Reserve-Recording Method And Apparatus For VCR* issued to Kang et al., and U.S. Patent No. 5,646,603 for *Remote Control Apparatus For Recording/Playback Equipment*, U.S. Patent No. 5,657,414 to Lett et al., entitled *Auxiliary Device Control For A Subscriber Terminal* issued to Nagata et al.

Other simplified reserve-recording techniques, such as "G code" recording, have been

proposed, such as those disclosed in U.S. Patent No. 5,479,267 for *Device For Combining VCR And TV* issued to Hashimoto, and U.S. Patent No. 5,608,534 for *Apparatus And Method For Performing Reservation-Recording Of Video Cassette Recorder* issued to Park et al. Generally, the G code is expressed with Arabic numerals up to 8-digits. The G code reserve-recording method uses special codes of programs listed on a newspaper or a TV program guide. When a user notes down special codes of programs listed on a newspaper and enters the numerals of a G code corresponding to the selected program into a VCR, the VCR analyzes the numerals and provides information containing a corresponding channel, reserve-recording start time and reserve-recording end time of a desired program. Thus, reserve-recording can be executed by inputting only numerals, without requiring the user to set information necessary for reserve-recording by manipulating a number of [times of] keys[,] a number of times. However, the newspaper or program guide must be referred to. Each broadcasting station transmits a broadcasting signal together with program identification information on a regular broadcast date, time and title with respect to a broadcasting program based on a predefined data format which is specified between broadcasting stations.

The VCR or TVCR has a function of reserve-recording a desired broadcast program and recording the reserve-recorded broadcast program[,] using received program identification information. This function is called a video programming system (VPS) in the case of [an] the European broadcast system and a Korean broadcast program system (KBPS) in the case of [a] the Korean broadcast system. In the case of reserve-recording by the KBPS, the VCR extracts KBPS data contained in a received broadcast signal, pre-stores the extracted data, displays the stored KBPS data on a TV screen, and makes a user select a desired broadcast program. A basic picture viewed with the KBPS data contains a current time, name of corresponding broadcast station, and title of

a broadcast program to be broadcasted according to a broadcast schedule. The VCR changes [a] channel automatically according to the KBPS data on a broadcast program selected by the user at the time when the program is broadcasted, thereby allowing a desired broadcast program to be reserve-recorded. However, irrespective of any types of reserve-recording, all conventional techniques require the user to manipulate keys once or more than once to move a cursor on a TV screen [around] to set the reserve-recording function. In addition, when reserve-recording a subsequent broadcast portion of the broadcast program which a user currently views, the conventional technique converts [a current viewing] the currently viewed broadcast picture into a reserve mode picture, or into a basic picture of the KBPS data. Therefore, there has been a drawback in that the broadcast program [under the user's viewing] being viewed by the user is interrupted when setting reserve-recording.

SUMMARY OF THE INVENTION

Accordingly, it is therefore an object of the present invention to provide a broadcast program reserve-recording method which can reserve-record a subsequent broadcasting portion of a broadcast program by [once] manipulating a key once while a user views the broadcast program.

It is also an object to provide a broadcast program reserve-recording apparatus which can reserve-record a subsequent broadcasting portion of a broadcast program by [once] manipulating a key once while a user views the broadcast program.

These and other objects of the present invention can be achieved by a method for reserve-recording a viewing broadcast program which comprises the steps of: (a) pre-storing program identification information contained in broadcast programs of broadcast stations; (b) selecting

reserve-recording with respect to the currently viewed broadcast program during viewing of the broadcast program; (c) maintaining [to] the current view of the broadcast program selected at step (b) [and] while reading program identification information corresponding to the selected broadcast program [among] from the program identification information stored at step (a); and (d) setting reserve-recording data with the program identification information read at step (c).

In accordance with another aspect of the present invention, a viewing broadcast program reserve-recording apparatus comprises: a first storage unit for pre-storing program identification information contained in a broadcast signal of each broadcast station; a key input unit for applying a key input signal for reserve-recording a [viewing]currently viewed broadcast program; a controller for maintaining a current broadcast picture [just as is] without interruption when receiving the key input signal from the key input unit, for reading program identification information corresponding to the broadcast program from the first storage unit, and for setting reserve-recording information with the read information; and a second storage unit for storing the reserve-recording information set by the controller.

The present invention is more specifically described in the following paragraphs by reference to the drawings attached only by way of example.

BRIEF DESCRIPTION OF THE DRAWINGS

A more complete appreciation of the present invention, and many of the attendant advantages thereof, will become readily apparent as the same becomes better understood by reference to the following detailed description when considered in conjunction with the accompanying drawings in which like reference symbols indicate the same or similar components, wherein:

FIG. 1 is a block diagram of a broadcast program reserve-recording apparatus of a broadcast program according to a preferred embodiment of the present invention; and

FIG. 2 is a flowchart illustrating an operation of the broadcast program reserve-recording apparatus as shown in FIG. 1.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, and particularly to FIG. 1, which illustrates a reserve-recording apparatus of a broadcast program which operates during a user's viewing according to a preferred embodiment of the present invention. A Korean broadcast program system (KBPS) is intended for reserve-recording a desired broadcast program and recording the reserve-recorded broadcast program using received program identification information. As shown in FIG. 1, the reserve-recording apparatus comprises: a key input unit 11 for applying a key input signal to reserve-record a broadcast program during the user's viewing thereof; a first storage unit 13 for extracting KBPS data contained in a broadcast signal of each broadcast station and pre-storing the extracted data; a controller 12 for reading the KBPS data corresponding to a viewing broadcast program [among] from the KBPS data stored in the first storage unit 13 according to the key input signal input from the key input unit 11, and for setting reserve-recording data with the read KBPS data; and a second storage unit 14 for storing the set reserve-recording data.

The operation of the reserve-recording apparatus as shown in FIG. 1 will be described in detail with reference to FIG. 2 as follows.

When a VCR or TVCR is turned on under the condition that a normal broadcast signal is applied, a tuner (not shown) receives a broadcast signal introduced via an antenna and selects the

broadcast signal transmitted from each broadcast station according to channels. The first storage unit 13 extracts the KBPS data [on] relating to a broadcast title, broadcast date, start time, end time and name of each broadcast station concerning programs to be broadcasted, and stores the extracted data, wherein the broadcast programs are contained in the broadcast signal of a selected channel.

Meanwhile, if a user inputs a reserve key signal for reserve-recording via the key input unit 11 while watching [the] a broadcast program (step 201), the controller 12 receives the reserve key signal, recognizes the [current viewing] currently viewed broadcast program as a broadcast program to be reserve-recorded, and reads reserve-recording data corresponding thereto from the first storage unit 13 (step 202). At this time, the controller 12 maintains [a current viewing] the broadcast picture currently viewed so that the broadcast program [under user's viewing] being viewed by the user is not interrupted. In step 202, the controller 12 reads the KBPS data corresponding to the [viewing] broadcast program [among] being viewed from the KBPS data pre-stored in the first storage unit 13. The read KBPS data contains a title, date, time and channel number of a program to be broadcasted. The controller 12 sets reserve-recording data using the same date, time and channel number as a broadcast date, time and channel number concerning the broadcast program included in the KBPS data read from the first storage unit 13 (step 203). The controller 12 stores the set reserve-recording data in the second storage unit 14. When the reserve-recording is set, the controller 12 performs a recording operation according to the reserve-recording data stored in the second storage unit 14 [under the] on a stand-by [status] basis.

As described above, the method and apparatus for reserve-recording a broadcast program during a user's viewing thereof according to the present invention is capable of checking data on a broadcast date, time, and channel numbers concerning the [viewing] broadcast program [among]

being viewed from program identification information of pre-stored VPS data or KBPS data, and automatically setting reserve-recording[,] without converting a [current] currently viewed picture into a reserve-recording picture when a reserve key signal for reserve-recording is applied during the viewing of the broadcast program. Therefore, the present invention advantageously permits the subsequent broadcast portion of the current viewing broadcast program to be reserve-recorded[,] without interrupting the viewing of the current broadcast program.

While there have been illustrated and described what are considered to be preferred embodiments of the present invention, it will be understood by those skilled in the art that various changes and modifications may be made, and equivalents may be substituted for elements thereof, without departing from the true scope of the present invention. In addition, many modifications may be made to adapt a particular situation to the teaching of the present invention without departing from the central scope thereof. Therefore, it is intended that the present invention not be limited to the particular embodiment disclosed as the best mode contemplated for carrying out the present invention, but that the present invention [includes] include all embodiments falling within the scope of the appended claims.

ABSTRACT OF THE DISCLOSURE

A viewing broadcast program reserve-recording method and apparatus [for] carries out reserve-recording of a broadcast program[, and] while maintaining a [current viewing] currently viewed broadcast picture [just as is] without interruption. The reserve-recording apparatus pre-stores program identification information, for example, VPS data or KBPS data, contained in a broadcast program of each broadcast station, reads channel data, broadcast date and time contained in program

identification information corresponding to the [current viewing] currently viewed broadcast program [among] from the pre-stored program identification information when a key input signal for reserve-recording the [current viewing] currently viewed broadcast program is applied, and stores the read data as reserve-recording information. Accordingly, a subsequent broadcasting portion of a broadcast program can be easily reserved for recording by simply manipulating a key while a user views the broadcast program.

IN THE CLAIMS

Please amend claims 1 thru 12, as follows:

1 1. (Amended) A method for reserve-recording[, during viewing,] a broadcast program
2 during viewing by a user, comprising the steps of:

3 (a) pre-storing program identification information contained in broadcast [programs]
4 signals of broadcast stations;

5 (b) selecting a given broadcast program for reserve-recording [with respect to the
6 broadcast program,] during viewing of the given broadcast program;

7 (c) maintaining the viewing of the given broadcast program selected at step (b)[, and]
8 without interruption while reading program identification information corresponding to the selected
9 given broadcast program [among] from the program identification information pre-stored at step (a);
10 and

11 (d) setting reserve-recording data [with] using the program identification information

12 read at step (c).

1 2. (Amended) The method of claim 1, [further comprised of] said program identification
2 information containing broadcast titles, broadcast date, time, and channel data [on] relating to the
3 selected given broadcast program, and said reserve-recording data including channel data, recording
4 date and time which are the same as those contained in the program identification information
5 corresponding to the [viewing] selected given broadcast program.

1 3. (Amended) The method of claim [1] 2, [further] wherein said steps (a) thru (d) are
2 executed by one of a video cassette recorder and a television incorporated with a video cassette
3 recorder.

1 4. (Amended) The method of claim [2] 1, [further] wherein said step (a) thru (d) are
2 executed by one of a video cassette recorder and a television incorporated with a video cassette
3 recorder.

1 5. (Amended) A reserve-recording apparatus, comprising:
2 a first storage unit for pre-storing program identification information contained in a broadcast
3 signal of [each] at least one broadcast station;
4 a key input unit for applying a key input signal for reserve-recording a [viewing] given
5 broadcast program being viewed by a user;
6 a controller for maintaining [a current] viewing of the given broadcast program when

7 receiving the key input signal from the key input unit, for reading the program identification
8 information corresponding to the given broadcast program from the first storage unit, and for setting
9 reserve-recording information in accordance with the read program identification information; and
10 a second storage unit for storing the reserve-recording information set by the controller.

1 6. (Amended) The reserve-recording apparatus of claim 5, [further comprised of] wherein
2 said controller [reading] reads channel data, broadcast date and time contained in the program
3 identification information corresponding to the [viewing] given broadcast program[,], from the
4 program identification information stored in the first storage unit.

1 7. (Amended) The reserve-recording apparatus of claim [5] 6, [further] said apparatus being
2 embodied in one of a video cassette recorder and a television incorporated with a video cassette
3 recorder.

1 8. (Amended) The reserve-recording apparatus of claim [6] 5, [further] said apparatus being
2 embodied in one of a video cassette recorder and a television incorporated with a video cassette
3 recorder.

1 9. (Amended) A method of reserve-recording a given broadcast program, comprising the
2 steps of:

3 receiving a broadcast signal from a [designated] broadcast station[,], via an antenna, and
4 extracting program identification information contained in the broadcast signal from said

5 [designated] broadcast station;

6 storing the program identification information contained in the broadcast signal from said
7 [designated] broadcast station in a first memory;

8 determining whether a reserve key signal is input by a user for reserve-recording while the
9 user is viewing the given broadcast program;

10 when the reserve key signal is input by the user[,] during viewing of the given broadcast
11 program, recognizing the [viewing] given broadcast program being viewed as a broadcast program
12 to be reserve-recorded, and maintaining the viewing of the given broadcast program without
13 interruption; and

14 reading the program identification information corresponding to the given broadcast program
15 from the first memory, setting reserve-recording information in accordance with the read program
16 identification information, and storing the reserve-recording information in a second memory for
17 reserve-recording.

1 10. (Amended) The method of claim 9, [further comprised of] said program identification
2 information containing broadcast titles, broadcast date, time[,] and channel data [on] relating to the
3 given broadcast program, and said reserve-recording data including channel data, recording date and
4 time which are the same as those contained in the program identification information corresponding
5 to the [viewing] given broadcast program being viewed.

1 11. (Amended) The method of claim [9] 10, [further] wherein said steps of said method are
2 executed by one of a video cassette recorder and a television incorporated with a video cassette

3 recorder.

1 12. (Amended) The method of claim [10] 9, [further] wherein said steps of said method are
2 executed by one of a video cassette recorder and a television incorporated with a video cassette
3 recorder.